

PATENT COOPERATION TREATY

REC'D 07 APR 2005	
WIPO	PCT

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/IB2005/050223

International filing date (day/month/year)
19.01.2005

Priority date (day/month/year)
21.01.2004

International Patent Classification (IPC) or both national classification and IPC
H05B37/02

Applicant
KONINKLIJKE PHILIPS ELECTRONICS, N.V.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Broza Gonzalez, A

Telephone No. +49 89 2399-5931



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2005/050223

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2005/050223

Box No. II Priority

1. ☐ The following document has not been furnished:

- ☐ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. ☒ The International Searching Authority has not been able to consider the validity of the priority claim because a copy of the earlier application whose priority has been claimed was not available to the International Searching Authority at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

4. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-22
	No: Claims	
Inventive step (IS)	Yes: Claims	2-7,9-14,19,20
	No: Claims	1,8,15-18,21,22
Industrial applicability (IA)	Yes: Claims	1-22
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement.**

1 The following documents are referred to in this communication:

- D1** : US 2002/158591 A1 (RIBARICH THOMAS J ET AL) 31 October 2002 (2002-10-31)
D2 : WO 02/082283 A (MICROCHIP TECHNOLOGY INCORPORATED) 17 October 2002 (2002-10-17)
D3 : ALONSO J M ET AL: "Intelligent control system for fluorescent lighting based on LonWorks technology" INDUSTRIAL ELECTRONICS SOCIETY, 1998. IECON '98. PROCEEDINGS OF THE 24TH ANNUAL CONFERENCE OF THE IEEE AACHEN, GERMANY 31 AUG.-4 SEPT. 1998, NEW YORK, NY, USA, IEEE, US, vol. 1, 31 August 1998 (1998-08-31), pages 92-97, XP010308193 ISBN: 0-7803-4503-7

INDEPENDENT CLAIMS 1 AND 8

2 The present application does not meet the criteria of Article **33(1)** PCT, because the subject matter of claim **1** does not involve an inventive step in the sense of Article **33(3)** PCT.

2.1 Document **D1**, which is considered to represent the most relevant state of the art to the subject matter of claim **1**, discloses (the references in parentheses applying to this document) a method of communicating between an external control system and an electronic ballast (page 1, paragraphs [0011]-[0012]) comprising:

- receiving an external signal from the external control system (page 2, paragraphs [0026]-[0027] and Fig. 1, external signal between user interface 10 and electronic ballast circuit 15);
- generating an outboard signal in response to the external signal (page 2, paragraph [0026] and Fig. 1, internal signal between user interface 10 and

- electronic ballast circuit 15);
 - transmitting the outboard signal and generating an inboard signal (page 2, paragraph [0026] and Fig. 1, internal signal between PC interface 20 and microprocessor 22);
 - generating an internal signal in response to the inboard signal (page 2, paragraph [0026] and Fig. 1, internal signal arriving at microprocessor 22); and
 - utilizing the internal signal in a microprocessor (page 2, paragraphs [0023]-[0027] and Fig. 1, microprocessor 22).
- 2.2 The subject-matter of independent claim **1** differs from the disclosure of **D1** in that the transmission of the outboard signal in order to generate an inboard signal is done across a transformer.
- 2.3 The problem to be solved by the present invention may therefore be regarded as how to efficiently isolate between an external control system and an electronic ballast.
- 2.4 In view of **D2** the solution proposed in claim **1** of the present application cannot be considered as involving an inventive step (Article **33(3)** PCT), because **D2** discloses (page 9, lines 5-6 and Figs. 3(a)-3(d)) the possibility of using an isolation transformer.
- 2.5 Therefore the features disclosed in **D1** and **D2** would be combined by the skilled person, without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claim **1** thus cannot be considered inventive (Article **33(3)** PCT).
- 2.6 Since claim **8** forms the corresponding independent apparatus claim, the same objections apply.
- 2.7 It should be pointed out that the same objections apply when considering the combination of documents **D1** and **D3**.

INDEPENDENT CLAIM 15

- 3 The present application does not meet the criteria of Article **33(1)** PCT, because the subject matter of claim **15** does not involve an inventive step in the sense of Article **33(3)** PCT.
- 3.1 Document **D1**, which is considered to represent the most relevant state of the art to the subject matter of claim **15**, discloses (the references in parentheses applying to this document) an electronic ballast with an interface communicating between an external control system and the electronic ballast (page 1, paragraphs [0011]-[0012]) comprising:
- an outboard circuit, the outboard circuit being operably connected to the external control system and communicating with the external control system by an external signal (page 2, paragraphs [0026]-[0027] and Fig. 1, external signal between user interface and electronic ballast circuit 15);
 - an interface, the interface being operably connected to the outboard circuit and communicating with the outboard circuit by an outboard signal (page 2, paragraph [0026] and Fig. 1, internal signal between user interface 10 and electronic ballast circuit 15);
 - an inboard circuit, the inboard circuit being operably connected to the interface, communicating with the interface by an inboard signal, and communicating with a microprocessor by an internal signal (page 2, paragraphs [0023]-[0027] and Fig. 1, microprocessor 22).
- 3.2 The subject-matter of independent claim **15** differs from the disclosure of **D1** in that the interface consists of a transformer.
- 3.3 The problem to be solved by the present invention may therefore be regarded as how to efficiently isolate between an external control system and an electronic ballast.
- 3.4 In view of **D2** the solution proposed in claim **15** of the present application cannot be considered as involving an inventive step (Article **33(3)** PCT), because **D2** discloses (page 9, lines 5-6 and Figs. 3(a)-3(d)) the possibility of using an isolation transformer.
- 3.5 Therefore the features disclosed in **D1** and **D2** would be combined by the skilled person,

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/IB2005/050223

without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claim **15** thus cannot be considered inventive (Article **33(3)** PCT).

- 3.6 It should be pointed out that the same objections apply when considering the combination of documents **D1** and **D3**.

DEPENDENT CLAIMS 16-18, 21, 22

- 4 Dependent claims **16-18, 21, 22** do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article **33(2)** and **(3)** PCT), because they refer to mere design options to implement the inboard and outboard circuits. Besides, document **D1** discloses a system which is able to support lighting control protocols including the DALI standard (see e.g. abstract).

DEPENDENT CLAIMS 2-7, 9-14, 19, 20

- 5 The combination of the features of dependent claims **2-7, 9-14, 19, 20** are neither known from, nor rendered obvious by, the available prior art. None of the documents cited in the search report discloses the specific generation of the inboard and the outboard signals.

INDUSTRIAL APPLICABILITY

- 7 The subject-matter of claims **1-22** is industrially applicable in the field of electronic ballasts for gas discharge lamps.

FURTHER REMARKS

- 8.1 Although claims 1, 8 and 15 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and/or in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.
- 8.2 The vague and imprecise statement in the description on page 8, lines 20-22 implies that the subject-matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity (Article 6 PCT) when used to interpret them.

PATENT COOPERATION TREATY

REC'D 07 APR 2005
WIPO PCT

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/IB2005/050223

International filing date (day/month/year)
19.01.2005

Priority date (day/month/year)
21.01.2004

International Patent Classification (IPC) or both national classification and IPC
H05B37/02

Applicant
KONINKLIJKE PHILIPS ELECTRONICS, N.V.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Broza Gonzalez, A

Telephone No. +49 89 2399-5931



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2005/050223

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2005/050223

Box No. II Priority

1. ☐ The following document has not been furnished:

- ☐ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. ☒ The International Searching Authority has not been able to consider the validity of the priority claim because a copy of the earlier application whose priority has been claimed was not available to the International Searching Authority at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

4. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-22
	No: Claims	
Inventive step (IS)	Yes: Claims	2-7,9-14,19,20
	No: Claims	1,8,15-18,21,22
Industrial applicability (IA)	Yes: Claims	1-22
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement.**

1 The following documents are referred to in this communication:

- D1** : US 2002/158591 A1 (RIBARICH THOMAS J ET AL) 31 October 2002 (2002-10-31)
D2 : WO 02/082283 A (MICROCHIP TECHNOLOGY INCORPORATED) 17 October 2002 (2002-10-17)
D3 : ALONSO J M ET AL: "Intelligent control system for fluorescent lighting based on LonWorks technology" INDUSTRIAL ELECTRONICS SOCIETY, 1998. IECON '98. PROCEEDINGS OF THE 24TH ANNUAL CONFERENCE OF THE IEEE AACHEN, GERMANY 31 AUG.-4 SEPT. 1998, NEW YORK, NY, USA, IEEE, US, vol. 1, 31 August 1998 (1998-08-31), pages 92-97, XP010308193 ISBN: 0-7803-4503-7

INDEPENDENT CLAIMS 1 AND 8

2 The present application does not meet the criteria of Article **33(1)** PCT, because the subject matter of claim **1** does not involve an inventive step in the sense of Article **33(3)** PCT.

2.1 Document **D1**, which is considered to represent the most relevant state of the art to the subject matter of claim **1**, discloses (the references in parentheses applying to this document) a method of communicating between an external control system and an electronic ballast (page 1, paragraphs [0011]-[0012]) comprising:

- receiving an external signal from the external control system (page 2, paragraphs [0026]-[0027] and Fig. 1, external signal between user interface 10 and electronic ballast circuit 15);
- generating an outboard signal in response to the external signal (page 2, paragraph [0026] and Fig. 1, internal signal between user interface 10 and

- electronic ballast circuit 15);
 - transmitting the outboard signal and generating an inboard signal (page 2, paragraph [0026] and Fig. 1, internal signal between PC interface 20 and microprocessor 22);
 - generating an internal signal in response to the inboard signal (page 2, paragraph [0026] and Fig. 1, internal signal arriving at microprocessor 22); and
 - utilizing the internal signal in a microprocessor (page 2, paragraphs [0023]-[0027] and Fig. 1, microprocessor 22).
- 2.2 The subject-matter of independent claim **1** differs from the disclosure of **D1** in that the transmission of the outboard signal in order to generate an inboard signal is done across a transformer.
- 2.3 The problem to be solved by the present invention may therefore be regarded as how to efficiently isolate between an external control system and an electronic ballast.
- 2.4 In view of **D2** the solution proposed in claim **1** of the present application cannot be considered as involving an inventive step (Article **33(3)** PCT), because **D2** discloses (page 9, lines 5-6 and Figs. 3(a)-3(d)) the possibility of using an isolation transformer.
- 2.5 Therefore the features disclosed in **D1** and **D2** would be combined by the skilled person, without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claim **1** thus cannot be considered inventive (Article **33(3)** PCT).
- 2.6 Since claim **8** forms the corresponding independent apparatus claim, the same objections apply.
- 2.7 It should be pointed out that the same objections apply when considering the combination of documents **D1** and **D3**.

INDEPENDENT CLAIM 15

- 3 The present application does not meet the criteria of Article **33(1)** PCT, because the subject matter of claim **15** does not involve an inventive step in the sense of Article **33(3)** PCT.
- 3.1 Document **D1**, which is considered to represent the most relevant state of the art to the subject matter of claim **15**, discloses (the references in parentheses applying to this document) an electronic ballast with an interface communicating between an external control system and the electronic ballast (page 1, paragraphs [0011]-[0012]) comprising:
- an outboard circuit, the outboard circuit being operably connected to the external control system and communicating with the external control system by an external signal (page 2, paragraphs [0026]-[0027] and Fig. 1, external signal between user interface and electronic ballast circuit 15);
 - an interface, the interface being operably connected to the outboard circuit and communicating with the outboard circuit by an outboard signal (page 2, paragraph [0026] and Fig. 1, internal signal between user interface 10 and electronic ballast circuit 15);
 - an inboard circuit, the inboard circuit being operably connected to the interface, communicating with the interface by an inboard signal, and communicating with a microprocessor by an internal signal (page 2, paragraphs [0023]-[0027] and Fig. 1, microprocessor 22).
- 3.2 The subject-matter of independent claim **15** differs from the disclosure of **D1** in that the interface consists of a transformer.
- 3.3 The problem to be solved by the present invention may therefore be regarded as how to efficiently isolate between an external control system and an electronic ballast.
- 3.4 In view of **D2** the solution proposed in claim **15** of the present application cannot be considered as involving an inventive step (Article **33(3)** PCT), because **D2** discloses (page 9, lines 5-6 and Figs. 3(a)-3(d)) the possibility of using an isolation transformer.
- 3.5 Therefore the features disclosed in **D1** and **D2** would be combined by the skilled person,

without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claim **15** thus cannot be considered inventive (Article **33(3)** PCT).

- 3.6 It should be pointed out that the same objections apply when considering the combination of documents **D1** and **D3**.

DEPENDENT CLAIMS 16-18, 21, 22

- 4 Dependent claims **16-18, 21, 22** do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article **33(2)** and **(3)** PCT), because they refer to mere design options to implement the inboard and outboard circuits. Besides, document **D1** discloses a system which is able to support lighting control protocols including the DALI standard (see e.g. abstract).

DEPENDENT CLAIMS 2-7, 9-14, 19, 20

- 5 The combination of the features of dependent claims **2-7, 9-14, 19, 20** are neither known from, nor rendered obvious by, the available prior art. None of the documents cited in the search report discloses the specific generation of the inboard and the outboard signals.

INDUSTRIAL APPLICABILITY

- 7 The subject-matter of claims **1-22** is industrially applicable in the field of electronic ballasts for gas discharge lamps.

FURTHER REMARKS

- 8.1 Although claims 1, 8 and 15 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and/or in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.
- 8.2 The vague and imprecise statement in the description on page 8, lines 20-22 implies that the subject-matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity (Article 6 PCT) when used to interpret them.
